case of the Scottish fishing industry, and, if so, what means should be adopted.

UNIVERSITY AND EDUCATIONAL NEWS

AT the University of Pennsylvania Dr. R. M. Pearce has withdrawn from the chair of pathology and will confine his work to the chair of research medicine, and Dr. Allen J. Smith returns to the charge of the department of pathology, retaining at the same time the directorship of the laboratories of comparative pathology and tropical medicine.

DR. J. H. CLO, of the University of Chicago, has been appointed to the chair of physics in Tulane University.

DR. HOWARD T. KARSNER, demonstrator of pathology in the University of Pennsylvania, has been appointed assistant professor of experimental pathology in Harvard University.

AT the University of Maine, Dr. M. A. Chrysler, professor of botany, has been appointed head of the department of biology to succeed Dr. G. A. Drew, and Mr. H. M. Parshley has been appointed instructor in zoology.

DR. FRASER HARRIS, at present lecturer on physiology in the University of Birmingham, has been appointed professor of physiology in the Dalhousie University, Halifax, Nova Scotia.

THE appointment of lecturer and demonstrator in the physical department of the East London College, vacant by the resignation of Mr. E. Marsden, M.Sc., on his election to the John Harling Research Fellowship at the University of Manchester, has been accepted by Mr. T. Harris, B.Sc., of the Imperial College of Science and the Cavendish Laboratory, Cambridge. Mr. Harris has been engaged in advanced research work under Professor Sir J. J. Thomson.

DISCUSSION AND CORRESPONDENCE

"WASHINGTON SCIENCE"

THE phrase which heads this communication appears now and then in print and may be assumed to have a depreciatory significance, whether this is due to a mistaken estimate of the quality of research work done in that city under governmental supervision; or with a feeling that scientific men so employed have what in college slang is termed a "soft snap"; or to a vague impression that a man willing to accept government employment must necessarily be a lower order of being in his general class, or to all these ideas combined in varying proportions—can not be decided here. But it occurs to me that the experience of one who has spent nearly half a century in scientific work, under government auspices, might throw some needed light on the subject for those without similar experience.

It is to be premised that scientific men differ like other men in their temperaments, breadth of view and social training. Their interest in and devotion to a particular line of research does not divest them of the common frailties of mankind, whether in Washington or elsewhere. In the history of American science, the three least creditable and most bitter controversies which have affected the relations of scientific men were between scientists of a high order, not Washingtonians.

Civil service reform has changed for the better in many ways the conditions confronting those desiring to enter the service of the government. Yet the writer entered that service at a time when no such reform had been instituted, and from the first day to this date has never been asked what his politics were or requested to secure "influence" to maintain his position or obtain promotion. The fact that he was believed to possess certain qualifications for his work and has conducted it since appointment in a satisfactory manner has covered the whole ground.

So far as the writer knows, barring the changes due to civil service reform laws, this experience is not exceptional.

We hear much about "red tape" as an obstacle to efficient work. Now "red tape" means fundamentally the fixing of responsibility. This may be either financial or other. The uninformed critic does not realize that the function of "red tape" is reciprocal, that

it not merely protects the government, but the individual whose service is governed by it, and whose devotion to a special object might in many cases without such wholesome restraint lead him to forget that he must keep step with his colleagues. Furthermore, "red tape" is not merely a governmental device, but is universal in all large organizations, private or public, and so far as the writer's observations extend, is, if anything, more rigid in private practise. No college, corporation or organized service is without it, and the occasional abuse of its restrictions is as common in these bodies as in the government service.

The features of "red tape" which are occasionally injuriously restrictive in government work are almost invariably due to the well meant but hasty desire of some "reformer" in congress who has discovered some supposed laxity in the public service and, desiring to make it impossible for the laxity to continue, procures the enactment (always easy) of some iron-clad restriction upon the action of public servants. After congress has adjourned the executive legal officers find that the language of the act is so broad that it covers proceedings never intended to be affected and entirely foreign to the supposed abuse it was intended to correct. Fortunately such blunders are less common than of old. "Pure ignorance, ma'am," as Dr. Johnson said, and certainly not to be charged to the account of science, Washington or other.

There is a very large class of employees in government service, in the wide sense, who are merely clerks and who are very much like clerks outside of the service, except that they have to live in a city where their easy hours and generous vacation hardly make up for its humid heat and excessive cost of living.

The great majority of these clerks do a fair day's work, but there were in past years enough of the element owing their position to "influence," and therefore more or less independent of their superiors in office, to give the service a bad name, which will probably endure a long time after such conditions have become merely a memory.

In the scientific corps if I may term it so, we have a body of men who for the most part seek and keep their positions for the wide opportunity for research the government work offers.

Few of them would be able to remain if they had not some private income additional to their inadequate salaries. The pay averages about that of the second-rate colleges, without the opportunity for economy and plain living without loss of social standing, which most colleges afford.

The cost of living in Washington has considerably more than doubled since the writer's residence began. When to decent clothing, food and shelter required by one's surroundings are added the care and education of a family, the subscriptions to a few periodicals and societies absolutely necessary to a scientific man, it is certainly not without personal sacrifice that the majority of the corps stand their ground.

Nor among the leaders is there cause for criticism in the matter of their devotion to science. Time and again have men fallen by the wayside, victims of voluntary overwork and nervous strain, which took no note of official hours or vacations. Every Washingtonian man of science knows of such men and honors their memory.

As to the quality of work turned out, it speaks for itself and is in no need of eulogy.

It is true that certain bureaus have fallen into evil times, for which we have to thank chiefly the late Mr. Cleveland's scorn of scientific men. One of them has become little more than a pasture for politicians, but nearly all its scientific workers have deserted it and its publications of a scientific character in the main are the work of men outside the service.

In this, as in less notorious cases, the just criticism that may be made should have for its basis not Washington science or Washington scientific men, but the ignorance of legislators and the indifference of politicians and the public.

The men of science, not of Washington,

have more or less responsibility resting upon them for whatever may be properly criticized in the governmental scientific corps. Efforts the corps itself may make for betterment are liable to the charge of self interest. The "outsiders" can help, if they will, to promote the ideal service. For such help no one will be more grateful than the members of the corps concerned.

A long dissertation illustrative of the statements above made might easily be written, but space requirements forbid it here.

In conclusion the writer is confident that neither in this country nor elsewhere is to be found a body of men of science more devoted to their work, more self-sacrificing in their devotion to it, and with a more honorable record, than the scientific corps of the government service, however, in the human way, it may fall short of the ideal.

WASHINGTONIAN

"BIOLOGY"

TO THE EDITOR OF SCIENCE: The publication in SCIENCE, of September 8, 1911, of a request that you "refuse to print any communication in which the adjective 'due' appears in any way except as agreeing . . . with some noun or pronoun" leads me to refer to the advertisement on page 1, of the same number, which gives, under six heads, a list of educational books for sale, one of the heads, "Biology," listing texts on "Laboratory Zoology," "Mammalian Anatomy" and "Zoology"; another head is "Botany," listing a "Guide to Laboratory and Field Studies," "Plant Anatomy" and "Vegetable Physiology."

After we have decided what the difference is between water-vapor and steam, and why the ether can not be made of electrons, will you please allow space for replies to the following question: What is there more "biological" about laboratory zoology than about laboratory and field studies in botany, about mammalian anatomy than about plant anatomy, or about a text-book on zoology than one on vegetable physiology?

Will not SCIENCE hereafter please refuse to publish any communication or advertisement in which the word biology is used as synonymous with zoology? Zoological journals please copy!

C. STUART GAGER

BROOKLYN BOTANIC GARDEN,
September 11, 1911

HOUSE AIR

TO THE EDITOR OF SCIENCE: Before the last echoes of the discussion as to indoor and outdoor air, humidity and so on die away I should like to add a word as to the general neglect on the part of doctors and nurses to look carefully into the nature of the air supply. There is an increasing tendency to prescribe life out of doors, even in bad weather, as almost a specific for many pathological conditions, from incipient tuberculosis to weak heart action. But after all, most sick people are indoors during the greater part of the twenty-four hours, at most seasons of the year. And yet it is rare indeed to find even an exceptionally intelligent physician who knows in detail at what rate the air of the patient's room is being changed, what is its origin, or its relative humidity. Physicians rather commonly and nurses almost always ignore the difference in ventilating effect between furnace or indirect steam heating and hot water or steam pipes in the rooms of the house. I have heard an unusually intelligent nurse, a woman with years of thorough training in her calling, argue for a half hour that no change of air could be accomplished by an open furnace register—she doubted whether any air came into the room from that source at any time.

As a matter of fact the ventilation from a register of ordinary size (say $9\frac{1}{2} \times 15\frac{1}{2}$ inches) in freezing weather, with a reasonable fire in the furnace, is much better than can ever be obtained in summer by opening a single window to its full height. There is no other simple way of securing cold weather ventilation in ordinary houses so certain to act efficiently as heating with a furnace provided with a capacious cold air duct. Still